

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A method for forming a wiring comprising the steps of:
performing a liquid-repellent treatment on a surface of an insulating film having an opening portion formed by dropping a dot including etchant;
performing selectively a lyophilic treatment on the opening portion and a peripheral region of the opening portion of the surface of the insulating film to form a lyophilic region and a liquid-repellent region; and
forming the wiring on the lyophilic region by dropping a composition including a conductive material.
2. (Previously Presented) A method for forming a wiring comprising the steps of:
forming a liquid-repellent region on a surface of an insulating film having an opening portion formed by dropping a dot including etchant;
forming selectively a lyophilic region in the liquid-repellent region so that the surface of the insulating film includes the liquid-repellent region and the lyophilic region in the opening portion and a peripheral region of the opening portion; and
forming the wiring on the lyophilic region by dropping a composition including a conductive material.
3. (Previously Presented) A method for forming a wiring comprising the steps of:
forming a liquid-repellent region by a plasma treatment on a surface of an insulating film having an opening portion formed by dropping a dot including etchant;
forming selectively a lyophilic region in the liquid-repellent region so that the surface of the insulating film includes the liquid-repellent region and the lyophilic region in the opening portion and a peripheral region of the opening portion; and
forming the wiring on the lyophilic region by dropping a composition including a conductive material.
4. (Original) The method for forming a wiring according to Claim 3, wherein the plasma treatment is performed at a pressure of 100 Torr to 1000 Torr.

5. (Currently Amended) The method for forming a wiring according to Claim 3, wherein the plasma treatment is performed under an atmospheric pressure or a pressure in a neighborhood of [[an]] the atmospheric pressure by using air, oxygen or nitrogen as a treatment gas.
6. (Previously Presented) The method for forming a wiring according to Claim 2 or 3, wherein the lyophilic region is selectively formed by irradiating the liquid-repellent region with laser light.
7. (Previously Presented) The method for forming a wiring according to Claim 2 or 3, wherein a region that is less liquid-repellent than the liquid-repellent region is formed as the lyophilic region.
8. (Original) The method for forming a wiring according to any one of Claims 1 to 3, wherein the composition is dropped by an ink-jetting method.
9. (Previously Presented) A method for forming a wiring comprising the steps of:
forming a liquid-repellent region by forming a film containing fluorine on a surface of an insulating film having an opening portion formed by dropping a dot including etchant;
forming selectively a lyophilic region in the liquid-repellent region so that the surface of the insulating film includes the liquid-repellent region and the lyophilic region in the opening portion and a peripheral region of the opening portion; and
forming the wiring on the lyophilic region by dropping a composition including a conductive material.
10. (Original) The method for forming a wiring according to Claim 9, wherein a Teflon film or a silane coupling agent is formed to form the liquid-repellent region.
11. (Previously Presented) The method for forming a wiring according to Claim 9, wherein the lyophilic region is selectively formed by irradiating the liquid-repellent region with laser light.

12. (Previously Presented) The method for forming a wiring according to Claim 9, wherein a region that is less liquid-repellent than the liquid-repellent region is formed as the lyophilic region.

13. (Previously Presented) The method for forming a wiring according to Claim 9, wherein the composition is dropped by an ink-jetting method.

14. (Currently Amended) A method for manufacturing a thin film transistor comprising the steps of:

performing a liquid-repellent treatment on a surface of an insulating film having [[an]] a first opening portion formed by dropping a dot including etchant to form a first liquid-repellent region;

performing selectively a lyophilic treatment on a region of the surface of the insulating film to form a first lyophilic region so that the surface includes the first liquid-repellent region and the first lyophilic region in the first opening portion and a peripheral region of the first opening portion; and

forming a conductive film on the first lyophilic region by dropping a first composition including a first conductive material.

15. (Currently Amended) A method for manufacturing a thin film transistor comprising the steps of:

forming a first liquid-repellent region on a surface of an insulating film having [[an]] a first opening portion formed by dropping a dot including etchant;

forming selectively a first lyophilic region in the first liquid-repellent region so that the surface includes the first liquid-repellent region and the first lyophilic region in the first opening portion and a peripheral region of the first opening portion; and

forming a conductive film on the first lyophilic region by dropping a first composition including a conductive material.

16. (Currently Amended) A method for manufacturing a thin film transistor comprising the steps of:

forming a first liquid-repellent region by a plasma treatment on a surface for forming a gate electrode;

forming selectively a first lyophilic region in the first liquid-repellent region;

forming the gate electrode in the first lyophilic region by dropping a first composition including a first conductive material;

forming a second liquid-repellent region by a plasma treatment on a surface for forming a source electrode and a drain electrode;

forming selectively a second lyophilic region in the second liquid-repellent region;
and

forming the source electrode and the drain electrode in the second lyophilic region by dropping a second composition including a second conductive material.

17. (Currently Amended) A method for manufacturing a thin film transistor comprising the steps of:

forming a first liquid-repellent region by a plasma treatment on a substrate;

forming selectively a first lyophilic region in the first liquid-repellent region;

forming a gate electrode in the first lyophilic region of the substrate by dropping a first composition including a first conductive material;

forming a gate insulating film to cover the gate electrode;

forming a first semiconductor film over the gate electrode;

forming a second semiconductor film having one conductivity over the first semiconductor film;

forming a second liquid-repellent region by a plasma treatment on the second semiconductor film having one conductivity and the gate insulating film;

forming selectively a second lyophilic region in the second liquid-repellent region;
and

forming a source electrode and a drain electrode in the second lyophilic region of the second semiconductor film having one conductivity and the gate insulating film by dropping a second composition including a second conductive material.

18. (Canceled)

19. (Currently Amended) A method for manufacturing a thin film transistor, comprising the steps of:

forming a source electrode and a drain electrode over a base film;

forming a semiconductor film over the source electrode and the drain electrode;

forming a first liquid-repellent region by a plasma treatment on the semiconductor film;
forming selectively a first lyophilic region in the first liquid-repellent region;
forming a mask in the first lyophilic region of the semiconductor film by dropping a first composition including a material of the mask;
patterning the semiconductor film by using the mask;
forming a gate insulating film to cover the semiconductor film;
forming a second liquid-repellent region by a plasma treatment on the gate insulating film;
forming selectively a second lyophilic region in the second liquid-repellent region;
and
forming a gate electrode in the second lyophilic region of the gate insulating film by dropping a second composition including a second conductive material.

20. (Currently Amended) A method for manufacturing a thin film transistor comprising the steps of:

forming a first liquid-repellent region by a plasma treatment on a base film;
forming selectively a first lyophilic region in the first liquid-repellent region;
forming a source electrode and a drain electrode in the first lyophilic region of the base film by dropping a first composition including a first conductive material;
forming a semiconductor film over the source electrode and the drain electrode;
forming a second liquid-repellent region by a plasma treatment on the semiconductor film;
forming selectively a second lyophilic region in the second liquid-repellent region;
forming a mask in the second lyophilic region of the semiconductor film by dropping a second composition including a material of the mask;
patterning the semiconductor film by using the mask;
forming a gate insulating film to cover the semiconductor film;
forming a third liquid-repellent region by a plasma treatment on the gate insulating film;
forming selectively a third lyophilic region in the third liquid-repellent region; and
forming a gate electrode in the third lyophilic region of the gate insulating film by dropping a third composition including a third conductive material.

21. (Previously Presented) The method for manufacturing a thin film transistor according to Claim 14 or 15, wherein the first liquid-repellent region is formed by forming a CF₂ bond on the surface by a plasma treatment.

22. (Currently Amended) The method for manufacturing a thin film transistor according to Claim 14 or 15, further comprising the steps of:

forming an interlayer insulating film;

forming ~~[[an]]~~ a second opening portion in the interlayer insulating film;

forming a second liquid-repellent region in a surface of the second opening portion and the interlayer insulating film by a plasma treatment on the interlayer insulating film in which the second opening portion is formed;

forming selectively a second lyophilic region in the second opening portion of the second liquid-repellent region; and

forming a wiring to be connected to a source electrode or a drain electrode through the second opening portion by dropping a second composition including a second conductive material.

23. (Currently Amended) The method for manufacturing a thin film transistor according to any one of Claims 14~~[[,]]~~ and 15~~, and 18~~, wherein the first liquid-repellent region is irradiated with laser light to selectively form the first lyophilic region.

24. (Currently Amended) The method for manufacturing a thin film transistor according to any one of Claims 14 to 17, 19 and ~~[[to]]~~ 20, wherein the first composition is dropped by an ink-jetting method.

25. (Currently Amended) A method for manufacturing a thin film transistor, comprising the steps of:

forming a film containing fluorine;

forming selectively a first lyophilic region in the film containing fluorine so that the film containing fluorine includes the first lyophilic region and a first liquid-repellent region;

forming a gate electrode on the first lyophilic region by dropping a first composition including a first conductive material;

performing a heat treatment for baking the gate electrode, and removing the film containing fluorine by the heat treatment;

- forming an interlayer insulating film;
- forming an opening portion in the interlayer insulating film;
- forming a second liquid-repellent region in a surface of the opening portion and the interlayer insulating film by a plasma treatment on the interlayer insulating film in which the opening portion is formed;
- forming selectively a second lyophilic region in the opening portion of the second liquid-repellent region; and
- forming a wiring to be connected to a source electrode or a drain electrode through the opening portion by dropping a second composition including a material of the wiring.

26. (Currently Amended) A method for manufacturing a thin film transistor comprising the steps of:

- forming a first film containing fluorine;
- forming selectively a first lyophilic region in the first film containing fluorine;
- forming a gate electrode in the first lyophilic region by dropping a first composition including a first conductive material;
- performing a first heat treatment to bake the gate electrode, and removing the first film containing fluorine by the first heat treatment;
- forming a gate insulating film to cover the gate electrode;
- forming a first semiconductor film over the gate electrode;
- forming a second semiconductor film having one conductivity over the first semiconductor film;
- forming a second film containing fluorine over the second semiconductor film having one conductivity and the gate insulating film;
- forming selectively a second lyophilic region in the second film containing fluorine;
- forming a source electrode and a drain electrode in the second lyophilic region of the second semiconductor film having one conductivity and the gate insulating film by dropping a second composition including a second conductive material; and
- performing a second heat treatment to bake the source electrode and the drain electrode, and removing the second film containing fluorine by the second heat treatment.

27. (Previously Presented) The method for manufacturing a thin film transistor according to Claim 25, wherein a film including a Teflon or a silane coupling agent is formed as the film containing fluorine.

28. (Canceled)

29. (Previously Presented) The method for manufacturing a thin film transistor according to Claim 25, wherein the film containing fluorine is irradiated with laser light to selectively form the first lyophilic region.

30. (Currently Amended) The method for manufacturing a thin film transistor according to Claim 25 or 26, wherein the first composition or the second composition is dropped by an ink-jetting method.

31-35. (Canceled)

36. (Currently Amended) The method for manufacturing a thin film transistor according to Claim 16, wherein each of the first liquid-repellent region and the second liquid-repellent region is formed by forming a CF₂ bond on the surface for forming [[a]] the gate electrode and the surface for forming [[a]] the source electrode and [[a]] the drain electrode by the plasma treatment.

37. (Currently Amended) The method for manufacturing a thin film transistor according to Claim 17, wherein each of the first liquid-repellent region and the second liquid-repellent region is formed by forming a CF₂ bond on the substrate and on the first semiconductor film by the plasma treatment.

38. (Canceled)

39. (Previously Presented) The method for manufacturing a thin film transistor according to Claim 19, wherein each of the first liquid-repellent region and the second liquid-repellent region is formed by forming a CF₂ bond on the semiconductor film and on the gate insulating film by the plasma treatment.

40. (Previously Presented) The method for manufacturing a thin film transistor according to Claim 20, wherein each of the first liquid-repellent region, the second liquid-repellent

region, and the third liquid-repellent region is formed by forming a CF₂ bond on the base film and on the semiconductor film by the plasma treatment.

41. (Currently Amended) The method for manufacturing a thin film transistor according to any one of Claims 16, 17, and 19, further comprising the steps of:

forming an interlayer insulating film;

forming an opening portion in the interlayer insulating film;

forming a third liquid-repellent region in a surface of the opening portion and the interlayer insulating film by a plasma treatment on the interlayer insulating film in which the opening portion is formed;

forming selectively a lyophilic region in the opening portion of the third liquid-repellent region; and

forming a wiring to be connected to the source electrode or the drain electrode through the opening portion by dropping a third composition including a third conductive material.

42. (Currently Amended) The method for manufacturing a thin film transistor according to Claim 20, further comprising the steps of:

forming an interlayer insulating film;

forming an opening portion in the interlayer insulating film;

forming a fourth liquid-repellent region in a surface of the opening portion and the interlayer insulating film by a plasma treatment on the interlayer insulating film in which the opening portion is formed;

forming selectively a lyophilic region in the opening portion of the fourth liquid-repellent region; and

forming a wiring to be connected to the source electrode or the drain electrode through the opening portion by dropping a fourth composition including a fourth conductive material.

43. (Previously Presented) The method for manufacturing a thin film transistor according to any one of Claims 16, 17, and 19, wherein each of the first liquid-repellent region and the second liquid-repellent region is irradiated with laser light to selectively form the first lyophilic region and the second lyophilic region.

44. (Previously Presented) The method for manufacturing a thin film transistor according to Claim 20, wherein each of the first liquid-repellent region, the second liquid-repellent region, and the third liquid-repellent region is irradiated with laser light to selectively form the first lyophilic region, the second lyophilic region, and the third lyophilic region.

45. (Previously Presented) The method for manufacturing a thin film transistor according to Claim 26, wherein a film including a Teflon or a silane coupling agent is formed as the first film containing fluorine and the second film containing fluorine.

46. (Currently Amended) The method for manufacturing a thin film transistor according to Claim 26, further comprising the steps of:

forming an interlayer insulating film;

forming an opening portion in the interlayer insulating film;

forming a liquid-repellent region in a surface of the opening portion and the interlayer insulating film by a plasma treatment on the interlayer insulating film in which the opening portion is formed;

forming selectively a lyophilic region in the opening portion of the liquid-repellent region; and

forming a wiring to be connected to the source electrode or the drain electrode through the opening portion by dropping a third composition including a material of the wiring.

47. (Previously Presented) The method for manufacturing a thin film transistor according to Claim 26, wherein each of the first film containing fluorine and the second film containing fluorine is irradiated with laser light to selectively form the first lyophilic region and the second lyophilic region.

48-49. (Canceled)